

**Investigative Hearing Agenda
Japan Airlines, JA829J
Boeing 787 Battery Fire
April 23-24, 2013**

DAY 1 – Tuesday April 23, 2013

Opening Statement by the Chairman, Board of Inquiry (9:00 – 9:30)

- Introduction of the Board of Inquiry and Technical Panel
- Introduction of the Parties to the Hearing
- Statement by the Investigator-in-Charge

Panel 1: B787 Battery System – Selection and Certification Requirements (9:30 – 12:30)

Topic Areas

- Reasons for selecting Li-Ion battery technology and its classification as novel design
- Process for evaluating battery/battery system as novel design and developing certification requirements (Issue Paper)
- Resulting Special Conditions and their interpretation
- Applicability of Airworthiness Standards for Equipment, Systems, and Installations (14 Code of Federal Regulations 25.1309)
- Industry safety standards used in development of certification requirements
- Certification program timeline and high level compliance plans

Witnesses

- Federal Aviation Administration
 - Dorenda Baker, Director, Aircraft Certification Service
 - Ali Bahrami, Manager, Transport Airplane Directorate
 - Steve Boyd, Manager, Airplane and Flight Crew Interface Branch
- Boeing
 - Mike Sinnett, Vice President, 787 Chief Project Engineer

Technical Panel

Dana Schulze
Mike Hauf
John DeLisi

Bob Swaim
Emmanuel Delbarre
Yuji Yanagisawa

Panel 2: B787 Battery System Design and Development (2:00 – 5:30)

Topic Areas

- Prime and subcontractors battery expertise and experience
- Role of prime and subcontractors in the development and design approval of the battery system
- Cell and battery design and specifications
- Charging system design and specifications
- Design development testing and evaluation:
 - Battery, cell, and integrated system testing
 - Test failures / investigations
 - Engineering analysis and evaluation of design during development phase
 - Resulting design modifications

Witnesses

- Boeing
 - Jerry Hulm, Systems Engineer, Associate Tech Fellow, Regulatory Administration
 - Mehdy Barekatein, Systems Engineer and Authorized Representative
 - Kamiar Karimi, Senior Technical Fellow, Electrical Power Systems
- Thales
 - Sandra Voglino, B787 In Service Program Manager
 - Thierry Queste, Project Design Authority for B787 Program
 - Arezki Bouzourene, Battery Product Technical Engineer
- GS-Yuasa
 - Takahiro Shizuki, Manager, Large-scale Lithium-ion Battery Technical Department, Special Battery & Lithium-ion Battery Division
 - Hiroaki Yoshida, General Manager, Large-scale Lithium-ion Battery Technical Department, Special Battery & Lithium-ion Battery Division
 - Daisuke Konishi, General Manager of the Lithium-ion Battery Business Unit Development Division

Technical Panel

Joseph Panagiotou
Bob Swaim
Joseph Kolly
John DeLisi

Mike Bauer
Yuji Yanagisawa
Emmanuel Delbarre

DAY 2 – Wednesday April 24, 2013

Panel 3: B787 Battery System Design Verification and Validation (9:00 – 12:00)

Topic Areas

- Battery, cell, and integrated system testing pertinent to certification (qualification, development, other)
- Safety Assessments
 - Purpose with respect to certification
 - Analyses performed to evaluate battery safety risks (Boeing, Thales, GS-Yuasa roles)
 - Data sources for analyses

Witnesses

- Boeing
 - Jerry Hulm, Systems Engineer, Associate Tech Fellow, Regulatory Administration
 - Martin Robinett, Manager of Regulatory Administration, Authorized Representative Administration System Integration
- Thales
 - Sandra Voglino, In Service Program Manager
 - Thierry Queste, Project Design Authority for B787 Program
 - Arezki Bouzourene, Battery Product Technical Engineer
- GS-Yuasa
 - Takahiro Shizuki, Manager, Large Scale Lithium Ion Battery Technical Department, Special Battery & Lithium-ion Battery Division
 - Yoshiaki Namikawa, General Manager of the Special Battery Technical Department, Special Battery & Lithium-ion Battery Division
 - Daisuke Konishi, General Manager of the Lithium-ion Battery Business Unit Development Division

Technical Panel

Bob Swaim / Mike Bauer
Mike Hauf
Joseph Panagiotou
Dana Schulze

John DeLisi
Joseph Kolly
Yuji Yanagisawa
Emmanuel Delbarre

Panel 4: B787 Battery System Certification / FAA Finding of Compliance (1:30 – 5:00)

Topic Areas

- Certification process structure and comparison to prior certification programs
- Retained and delegated approval authority
- Oversight of delegation organization / authorized representatives
- Oversight of validation testing for B787 Li-Ion battery
- Findings of compliance and review of safety assessments for B787 Li-Ion battery

Witnesses

- Federal Aviation Administration
 - Dorenda Baker, Director, Aircraft Certification Service
 - Ali Bahrami, Manager, Transport Airplane Directorate
 - Steve Boyd, Manager, Airplane and Flight Crew Interface Branch
- Boeing
 - Doug Lane, Director, Boeing Commercial Airplane Regulatory Administration

Technical Panel

Mike Hauf
Dana Schulze
John DeLisi
Bob Swaim

Mike Bauer
Emmanuel Delbarre
Yuji Yanagisawa